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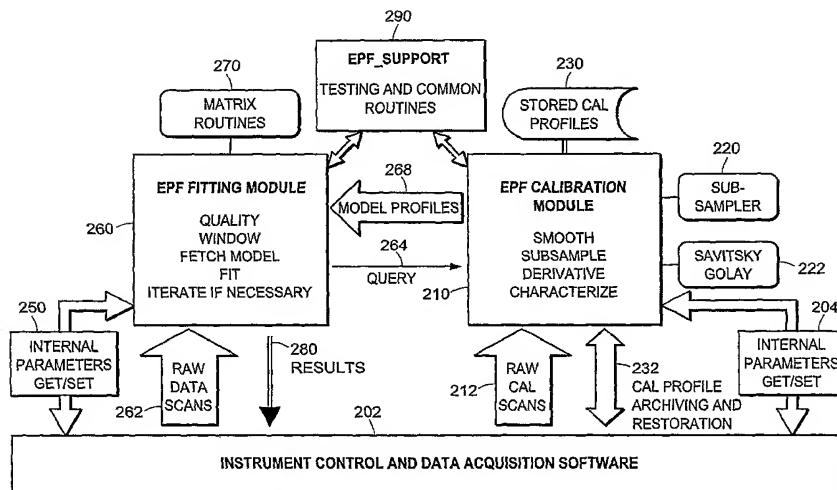
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**(54) Title: METHOD AND APPARATUS FOR QUANTITATING SURFACE-BINDING OPTICAL RESONANCE PROFILES**



**(57) Abstract:** Empirical profile curve fits (260) are used to quantitative the surface optical resonance profiles (268) using two EPF stages of calibration and fit. The calibration surface binding optical resonance scan is obtained with fine angle or wavelength spacing over a range including the full resonance profiles for all regions. The main calibration module (210) together with the first derivative curves and the diagnostic information generates each profile region of interest. The individual ROI scans are used for measurements of the resonance shifts relative to the empirical profile. In a preferred embodiment the instrument control and data acquisition software sets the internal parameters in the EPT calibration module and sends the raw data from a calibration scan to the EPF Calibration module which funnels the data through a sub sampler and a Savitsky-Golan smoothing routine before taking derivatives and characterizing the data to create the empirical profile for the chip (202).



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